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EXAMINER

OMETZ, DAVID LOUIS

ART UNIT

PAPER NUMBER

2651

DATE MAILED: 01/16/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/991,855

Applicant(s)

GITIS ET AL

Examiner

David L. Ometz

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 20 November 2001.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 5-69 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 5-69 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

### Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3.

- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other.

### DETAILED ACTION

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 5, 6, 9-11, 15, 16, 20-22, 30-33, 35-38, 40, 41, 45-47, 51-53, 60, 61, 63-65, 67, 68 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by JP 02-101687.

3. Claims 5, 7-10, 17-19, 23-28, 30-32, 35-38, 40, 48-50, 54-61, 63, 64, 67, 68 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Inumochi (US Pat 4939603).

4. Claims 5, 6, 9-12, 14, 20, 22, 30, 33, 35-38, 40-42, 44, 51, 60, 62, 65, 67, 68 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by JP 63-136370.

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 13, 29, 34, 43, 66 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 63-136370 in view of Yoneoka (US Pat 5212608). JP '370 shows a magnetic head slider in figure 1 that has V-shaped (wedge-shaped) air bearing rails 1 with tapered leading edges 3.

However, JP '370 does not show the rails being of a uniform thickness, i.e. taperless at the leading edge. Yoneoka shows a magnetic head slider in figure 10 that has taperless rails 1,1' that are of uniform thickness from the leading edge to the trailing edge of the slider. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to

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remove the taper from the leading edge of the slider of JP '370 as taught by Yoneoka. The rationale is as follows: one of ordinary skill in the art would have been motivated to remove the taper as doing this would lower the fly height of the slider and prevent deposition of particles onto the disk caused by the compression of floating gas at the tapered section as taught by Yoneoka, col. 1, lines 57-65, and col. 2, lines 56-65.

7. Claims 13, 29, 34, 66 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 02-101687 in view of Yoneoka (US Pat 5212608). JP '687 shows a magnetic head slider in figures 1 and 2 and 4(b) that has V-shaped (wedge-shaped) air bearing rails 2 with tapered leading edges 1. However, JP '687 does not show the rails being of a uniform thickness, i.e. taperless at the leading edge. Yoneoka shows a magnetic head slider in figure 10 that has taperless rails 1,1' that are of uniform thickness from the leading edge to the trailing edge of the slider. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to remove the taper from the leading edge of the slider of JP '687 as taught by Yoneoka. The rationale is as follows: one of ordinary skill in the art would have been motivated to remove the taper as doing this would lower the fly height of the slider and prevent deposition of particles onto the disk caused by the compression of floating gas at the tapered section as taught by Yoneoka, col. 1, lines 57-65, and col. 2, lines 56-65.

8. Claims 29, 34, 66 are rejected under 35 U.S.C. 103(a) as being unpatentable over Inumochi (US Pat 4939603) in view of Yoneoka (US Pat 5212608). Inumochi shows a magnetic head slider in figure 1 that has U-shaped (parabolic/hyperbolic-shaped) air bearing rails 2 with tapered leading edges 3. However, Inumochi does not show the rails being of a uniform thickness, i.e. taperless at the leading edge. Yoneoka shows a magnetic head slider in figure 10

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that has taperless rails 1,1' that are of uniform thickness from the leading edge to the trailing edge of the slider. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to remove the taper from the leading edge of the slider of Inumochi as taught by Yoneoka. The rationale is as follows: one of ordinary skill in the art would have been motivated to remove the taper as doing this would lower the fly height of the slider and prevent deposition of particles onto the disk caused by the compression of floating gas at the tapered section as taught by Yoneoka, col. 1, lines 57-65, and col. 2, lines 56-65.

9. Claims 39 and 69 are rejected under 35 U.S.C. 103(a) as being unpatentable over one of either Inumochi, JP 63-136370, or JP 02-101687 in view of Morita et al (US Pat 5080948).

Inumochi, JP '370, and JP '687 all shows magnetic head sliders that fly at close distances above a rotating magnetic disk as noted above. However, all are silent as to the exact flying height of the slider (as claimed 1-3 microinches (or approx. 25nm-76nm)). Morita et al discloses a magnetic head slider and rotating disk assembly that includes the slider flying at heights between 10-90 nm (see col. 10, lines 1-2). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have the sliders of any one of Inumochi, JP '370, or JP '687 fly at heights within the claimed range as taught by Morita et al as those flying heights are "effective for floating performance and CSS durability" as taught by Morita et al, col. 10, lines 1-2.

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. JP 63-201968 shows a magnetic head slider with various air bearing rail configurations (tapered and taperless).

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to David L. Ometz whose telephone number is (703) 308-1296.

The examiner can normally be reached on M-F, 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hoa Nguyen can be reached on (703) 305-9687. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9314 for regular communications and (703) 872-9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-4750.



David L. Ometz  
Primary Examiner  
Art Unit 2652

DLO  
January 14, 2002